Fact Sheet

US Army Engineer
Research and Development Center
Waterways Experiment Station

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Rapid Methods of Dust Control

Purpose: To summarize the development and evaluation of methods and materials to control dust on military operational areas.

Background: The Army must be provided effective, efficient means of suppressing dust on airfields, helipads, cantonment areas, roads, and tank trails where the presence of dust is detrimental to military operations. When helicopters operate in dusty environments, their rotor blades and engines must be replaced after only one-third to one-half of their normal life due to erosion of surfaces caused by airborne soil particles. Dust clouds around military installations provide the enemy with easily recognizable signatures of strategic operations and impair visibility of both airborne and ground personnel.

Facts: During FY92-93, laboratory tests were conducted by personnel from the US Army Engineer Waterways Experiment Station (WES) in an effort to develop and evaluate new materials that would effectively control dust in desert, temperate, and tropic climates while reducing equipment, manpower, and logistical requirements of the present materials by 30 percent. Subsequent field tests were conducted at Yuma Proving Ground, AZ, to further evaluate those products that performed well during the laboratory simulated desert climatic conditions.

Based on results of these tests and additional evaluations, five new commercially available products considered safe to the environment are recommended for use by the military engineer on helipads, roadways trafficked by wheeled vehicles, and/or nontrafficked areas. These products can be applied by Army engineers with their existing equipment (asphalt distributors, water trucks, motor graders, and steel-wheel and pneumatic-tired rollers).

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